

REMARKS/ARGUMENTS

Claims 1-3 and 6-12 are pending. By this Amendment, claim 1 is amended, and new claim 12 is presented. Support for the amendments to claim 1 and new claim 12 can be found, for example, in the present specification at page 55, lines 10 to 18, and in previously presented claim 1. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Personal Interview

Applicants appreciate the courtesies extended to Applicants' representatives by Examiners Hanley and Ton during the May 26, 2010 Personal Interview. Applicants' separate record of the substance of the interview is incorporated in the following remarks.

Allowable Subject Matter

Applicants thank the Examiner for the indication in the Office Action that claims 12 and 13 contain allowable subject matter.

Rejection Under 35 U.S.C. §103

The Office Action rejects claims 1-3 and 6-11 under 35 U.S.C. §103(a) over Tokito et al. (High-efficiency white phosphorescent organic light emitting devices with greenish-blue and red emitting layers) ("Tokito") in view of Zugang et al. (White organic light-emitting diodes from both hole and electron transport layers) ("Zugang"). Applicants respectfully traverse the rejection.

Claim 1 recites "[a]n organic electroluminescent device comprising, in order: an anode; a first emitting layer; a hole barrier layer; a second emitting layer; and a cathode; wherein: the first emitting layer and the second emitting layer both comprise a hole

transporting material; a difference in affinity level between the hole barrier layer and the first emitting layer is 0.2 eV or less; a difference in affinity level between the hole barrier layer and the second emitting layer is 0.2 eV or less; affinity levels of the hole barrier layer, the first emitting layer and the second emitting layer are determined using ionization potential values obtained with a photoelectron spectrometer at atmospheric pressure with a UV source" (emphasis added). Tokito and Zugang do not disclose or suggest such a device.

It is undisputed that neither Tokito nor Zugang explicitly discloses or suggests a device having the differences in affinity levels required in claim 1.

The Office Action relies on Tokito for its disclosure of a device including a CDBP first emitting layer, a BA1q hole barrier layer and a CDBP first emitting layer. *See* Office Action, page 3. Using affinity values from WO 2008/120714 to Ueno et al. ("Ueno"), Applicants calculated a difference in affinity between the hole barrier layer and the first emitting layer of 0.44 eV, and a difference in affinity between the hole barrier layer and the second emitting layer of 0.44 eV. *See* Ueno, paragraph [0104]. Both of these values are greater than the differences of 0.2 eV or less permitted by claim 1.

The Office Action relies on Zugang for its disclosure of a device including a PBD hole barrier layer, and asserts that it would have been obvious to replace the BA1q hole barrier layer of the device of Tokito with the PBD hole barrier layer. *See* Office Action, page 3. Applicants have determined that the affinity of a PBD hole barrier layer is 2.9 eV. *See* present specification, Table 1. Using this value determined by Applicants and the values obtained from Ueno mentioned above (which were determined using the same method and the same device – *see* present specification, page 55, lines 10 to 18; Ueno, paragraphs [0083] and [0084]), even if the CDBP hole barrier layer of Tokito was replaced with a PBD hole barrier layer, a difference in affinity between the hole barrier layer and the first emitting layer would be 0.61 eV, and a difference in affinity between the hole barrier layer and the second

emitting layer would be 0.61 eV. Both of these values are greater than the differences of 0.2 eV or less permitted by claim 1.

Accordingly, by Applicants' calculations, neither the device of Tokito nor the modified device suggested in the Office Action has affinity differences as required by the present claims.

The March 26, 2010 Advisory Action dismisses the foregoing calculations in view of the disclosure of different affinity values for BA1q and CDBP found in Meng et al. (Organic small molecule materials for organic light-emitting diodes) ("Meng"). However, during the Personal Interview, it was agreed that the origin of the affinity values from Meng and the manner in which such affinity values were obtained could not be easily deduced. Further, in view of variability of affinity values from publication to publication, it was agreed that reported affinity values are dependent on the manner in which they are determined.

Applicants submit that claim 1 is intended to encompass devices in which the differences in affinity between the first emitting layer, hole barrier layer and second emitting layer are small as measured by a single method. To clarify this point and more clearly distinguish over the cited references, claim 1 is amended to specify that "affinity levels of the hole barrier layer, the first emitting layer and the second emitting layer are determined using ionization potential values obtained with a photoelectron spectrometer at atmospheric pressure with a UV source." Applicants submit that amended claim 1 is patentable over the cited references.

As explained, claim 1 would not have been rendered obvious by Tokito and Zugang. Claims 2, 3 and 6-11 depend from claim 1 and, thus, also would not have been rendered obvious by Tokito and Zugang. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

New Claim

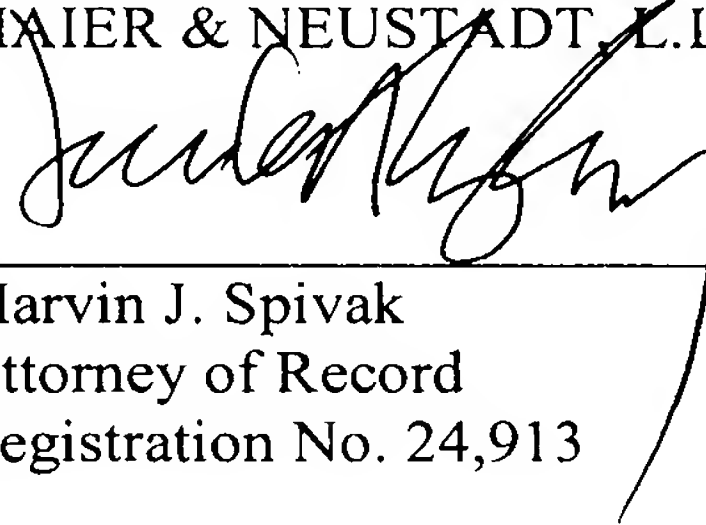
By this Amendment, new claim 12 is presented. New claim 12 depends from claim 1 and thus is believed to be patentable for at least the reasons discussed above with respect to claim 1.

Conclusion

For the foregoing reasons, Applicants submit that claims 1-3 and 6-12 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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